# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/619,070 | 07/14/2003 | Nikolay Glushnev | GB920020068US1 | 6964 |

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| EXAMINER |
|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2626 | |

| NOTIFICATION DATE | DELIVERY MODE |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOCommunications@hoffmanwarnick.com

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/619,070 | GLUSHNEV ET AL. |
| | Examiner | Art Unit |
| | JAMES S. WOZNIAK | 2626 |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on _03 June 2009_.

2a)☒ This action is **FINAL**.     2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under _Ex parte Quayle_, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) _1-13_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-13_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _14 August 2007_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1.       In response to the office action from 3/4/2009, the applicant has submitted an
amendment, filed 6/3/2009, amending independent claims 1, 5, and 9, while arguing to traverse
the art rejection based on the limitation regarding a cut and paste code that indicates a quantity of
characters that should be cut from the end of a surface form of a word and pasted to produce a
particular variation *(Amendment, Pages 9-13)*.  Applicant's arguments have been fully
considered, however the previous rejection is maintained due to the reasons listed below in the
response to arguments.

2.       In response to amended claim 1, which now includes that the recited method steps are
performed on a computer and thus eliminates the possibility of the claimed method being
performed by a human, the examiner has withdrawn the previous 35 U.S.C. 101 rejection.

### *Response to Arguments*

3.       Applicant's arguments have been fully considered but they are not persuasive for the
following reasons:

        With respect to the independent claims, the applicants argue that Kaplan et al (U.S.
Patent:  5,594,641) fails to teach a cut and past code including code that indicates how a quantity

of characters that should be cut form the end of a surface word and pasted to produce a particular variation *(Amendment, Pages 9-12)*. In support of such arguments, the applicants allege that Kaplan only teaches the use of a finite state machine for encoding word variations and that his tags are only morphological in nature and do not indicate and does not involve " a quantity of characters that should be cut from the end of a surface form of a word and pasted to produce a particular variation *(Amendment, Pages 10-12)*.

In response, the examiner notes that the issue that Kaplan teaches symbolic tag codes that are morphological in nature further support the fact that they are used to represent variations of a word stem. These morphological variations involve a quantity of letters that should be subtracted from/ added to a base form. In an example of "arrive" detailed in Kaplan, a tag code is assigned which indicates that an "e" is to be removed or "cut" *(i.e., 1 letter)* from the base form "arrive" and then 3 letters, "ing", are to be added to the modified base form *(Figs. 10 and 11A)*. Thus, the quantity represented by this tag is to subtract 1 letter and add 3 to result in the morphological variant, "arriving". The utilization of a null character simply means that 0 cut and pastes are to occur. Thus for at least these reasons, the applicants' arguments have been fully considered, but are not convincing.

Also, the examiner points out that cut and paste codes are well known in the art as being associated with dictionary/text processing. For example, Goldwasser *(U.S. Patent: 4,891,786)* describes a number of suffix characters that are to be added to a root word and "a number of letters to delete from the end of the root [sic] before adding the suffix" *(Col. 15, Line 50- Col. 16, Line 11)*. This reference has been included in the attached PTO-892 for the applicants' consideration.

The applicants next argue that Holtz *("Data Compression for Disc Files and*

*Communication Networks," 1993)* fails to teach a cut and paste code extended by a gloss code

because Holtz only teaches an extra two bits of code to be stored in a library *(Amendment, Pages*

*12-13)*. In response, the examiner notes that, as was pointed out above, the Kaplan reference is

relied upon for the teaching of a "cut and paste code". The teachings of Holtz were relied upon

for the teaching of a gloss code which Holtz describes in the form of an upper/lower case

conversation data that is added to an encoded string *(Page 149, right column)*. In response these

arguments against the references individually, one cannot show nonobviousness by attacking

references individually where the rejections are based on combinations of references. See *In re*

*Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231

USPQ 375 (Fed. Cir. 1986). Thus, these arguments have been fully considered, but are not

convincing.

The art rejections of the dependent claims are traversed for reasons similar to the

independent claims *(Amendment, Page 13)*. In regards to such arguments, see the response

directed towards the independent claims.


### Claim Rejections - 35 USC § 112


4.        The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

5.      **Claim 1** and its associated dependent claims 2-4 and 13 are rejected under 35 U.S.C. 112,

first paragraph, as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

application was filed, had possession of the claimed invention. Amended claim 1 recites storing

a cut and paste code on a data carrier that includes one of a magnetic computer disc and an

optical computer disc. The specification only appears to note that a dictionary is generically

stored *(for example- see Paragraph 0033)*. The data carrier storage is only attached to the

program for generating the dictionary and not the actual dictionary *(Paragraph 0052)*. The

specification is silent as to the storing/recording of the generated dictionaries on the described

data carriers. Thus, claim 1 and its associated dependent claims fail to comply with the written

description requirement.


*Claim Rejections - 35 USC § 103*


6.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.      **Claims 1, 3, 5, 7, 9, 11, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kaplan et al *(U.S. Patent: 5,594,641)* in view of Holtz *("Data Compression for Disc Files*

*and Communication Networks," 1993)*.

With respect to **Claims 1 and 5**, Kaplan discloses:

Obtaining orthographic variations of dictionary words *(receiving word stems and variations, Col. 4, Lines 19-39)*;

Explicitly storing substantially all orthographic variations of words in a finite state transducer database *(word stems and all variations stored in a finite state transducer database, Col. 4, Line 19- Col. 5, Line 5)*;

Generating and Storing, for each of the orthographic variations, a cut and paste code, a quantity of characters that should be cut from the end of a surface form of a word and pasted to produce a particular variation *(stored coded mapping of variation rules merged into a lexical transducer and readable by a computer, wherein variations are cut and pasted onto a stem form, Col. 4, Line 19- Col. 5, Line 5 and Col. 8, Line 59- Col. 9, Line 6; and Fig. 10-11a.; further tag codes that are indicative of a change in case between a stem and variant form, Col. 4, Line 40- Col. 5, Line 5; and example of case variation in a FST, Col. 7, Line 56- Col. 8, Line 13)*.

Kaplan also discloses a computer having a central processing unit and RAM, ROM, and disk memories *(Col. 7, Lines 43-55; and Fig. 1)*.

Kaplan further teaches method implementation using a computer featuring a provision for dictionary storage in the form of a common magnetic/optical storage disc *(Col. 7, Lines 46-55 and Fig. 1, Element 31)*.

Although Kaplan discloses cut and paste tag codes for word variations and further notes that multiple rules can be added together (Col. 5, Line 65- Col. 6, Line 10), Kaplan does not explicitly disclose a further code that indicates whether at least part of the orthographic variation

should be converted between upper and lower case, however, Holtz recites such a orthographic variation rule *(Pages 149, right column)*.

Kaplan and Holtz are analogous art because they are from a similar field of endeavor in linguistic compression. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Kaplan with the lower/upper case conversion rule taught by Holtz in order to achieve a more compact dictionary *(Holtz, Page 149, right column)*.

With respect to **Claims 3, 7, and 11**, Holtz discloses the upper-lower case conversion as applied to claims 1 and 5.

With respect to **Claim 9**, Kaplan discloses the method for producing a lexical transducer as applied to claim 1 as implemented as a program stored on a computer readable medium *(Col. 7, Lines 46-55)*.

With respect to **Claim 13**, Kaplan shows a single orthographic variation segment indicating a plurality of root words *(Fig. 11A.)*.


8.      **Claims 2, 6, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan et al in view of Holtz and further in view of Lee et al *(U.S. Patent: 4,939,639)*.

With respect to **Claims 2, 6, and 10**, Kaplan in view of Holtz discloses the method for generating a lexical transducer as applied to Claim 1. Kaplan in view of Holtz does not specifically suggest form variation between single and double character sequences, however Lee recites a linguistic dictionary that indicates corresponding single and double character sequences *(Col. 10, Line 55- Col. 11, Line 6)*.

Kaplan, Holtz, and Lee are analogous art because they are from a similar field of endeavor in linguistic dictionary processing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Kaplan in view of Holtz with the correlation of related single and double character sequences taught by Lee in order to provide a means for transliteration for characters that do not appear in a user's language *(Lee, Col. 10, Lines 43-54)*.

9.      **Claims 4, 8, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan et al in view of Holtz and further in view of Schabes et al *(U.S. Patent: 6,424,983)*.

With respect to **Claims 4, 8, and 12**, Kaplan in view of Holtz discloses the method for generating a lexical transducer as applied to Claim 1. Kaplan in view of Holtz does not specifically suggest storing composite word forms having unaccented characters and storing expanded word forms having the base letter form and an accent mark, however Schabes discloses a lexicon utilizing a finite state machine that associates words without accents (composite form) with alternative word forms having the base letters and accent marks (expanded form) *(Col. 21, Line 66- Col. 22, Line 30)*.

Kaplan, Holtz, and Schabes are analogous art because they are from a similar field of endeavor in linguistic dictionary processing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Kaplan in view of Holtz with the concept of incorporating accent data into a lexicon as taught by Schabes in order to enable dictionary use in a non-English language context *(Schabes, Col. 22, Lines 17-21)*.

## *Conclusion*

10.     Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

11.     The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure: See PTO-892.

12.     Any inquiry concerning this communication or earlier communications from the

examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632.

The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached at (571) 272-7602.  The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system.  Status information for published applications

may be obtained from either Private PAIR or Public PAIR.  Status information for unpublished

applications is available through Private PAIR only.  For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


/James S. Wozniak/
Primary Examiner, Art Unit 2626